03/15/24 • BIG FOOD › NEWS

Eating Ultra-Processed Foods May Boost Risk of Heart Attack, Stroke by Up to 21%

A review of 20 major studies involving more than 1.1 million subjects over an average of about 12 years revealed that the more ultra-processed or junk food someone eats, the greater their risk for heart attack, stroke and other serious heart-related events.

By Angelo DePalma, Ph.D.

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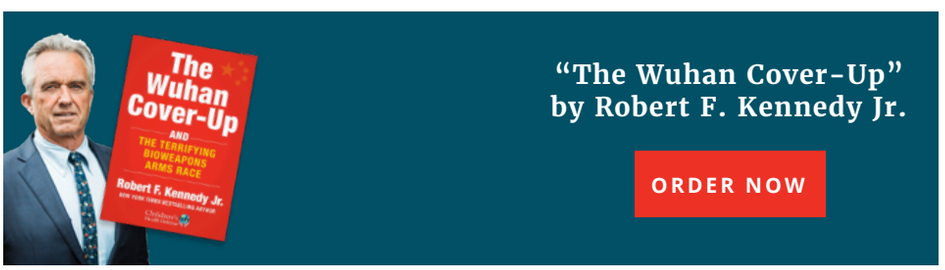
In a review of the literature on the effects of ultra-processed foods on heart health, researchers from China's Tangdu Hospital at the Air Force Medical University in Shaanxi Province found a positive, predictable association between ultra-processed food consumption and cardiovascular events, such as heart attacks and strokes.

Whether measured by percent of total calories or number of meals, investigators found that each 10% increase in ultra-processed food consumption was associated with a nearly 2% increase in cardiovascular event risk.

The analysis appeared on Feb. 16 in The Lancet's eClinicalMedicine.



10% increase in ultra-processed food consumption led to 1.9% risk for cardiovascular events

Working from the PubMed, EMBASE, Cochrane Library and Web of Science biomedical databases, investigators identified 43,502 "potentially relevant" papers.

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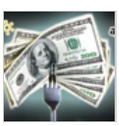
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Studies had to be observational and involve subjects at least 18 years old. In observational studies, subjects are free to engage, or not, in the "exposure" — for example, eating a food or taking a drug — to whatever degree they like.

Studies included in the review also had to use the NOVA Food Classification System, which categorizes foods according to the following scale: unprocessed or raw foods, minimally processed foods that have undergone normal cleaning and preparation, processed foods that are typically packaged and contain additional ingredients, and ultra-processed foods made entirely or mostly from either substances extracted from food or artificial ingredients.

Additionally, study endpoints had to be cardiovascular events, including diseases and deaths related to heart attack, stroke, transient ischemic attack (often called "mini-strokes"), invasive heart procedures such as stents or catheters, hospitalization for unstable angina (chest pains caused by restrictive blood flow) or acute heart failure.

Studies also had to express the relative risks of consuming ultra-processed foods versus other categories and report statistically significant results.

After applying these filters, just 20 studies involving 1,101,073 subjects remained. Among those, 58,201 cardiovascular events occurred over an average follow-up period of 12.2 years. Subjects were then classified into the four NOVA consumption categories and tracked for cardiovascular events.

Throughout, researchers compared results from the upper three consumption categories to the lowest ultra-processed food-consuming group.

Whether ultra-processed food consumption was measured by the percent weight of all food consumed or the number of servings didn't matter: A 10% (by food weight) increase in ultra-processed food consumption was associated with an additional 1.9% risk for cardiovascular events, and each daily serving corresponded to a 2.2% elevated cardiovascular event risk.

Using the lowest-consuming group as the reference, no effect was seen in the second-lowest consumption group. However, the risk of cardiovascular events rose sharply — by 6% for consumers of the second-highest group and 21% for people in the highest-consuming group.

The Tangdu researchers also looked for associations with risk for cerebrovascular disease but found nothing remarkable.

The study had several strengths: Its million-plus subjects were sufficient to show even modest cause-effect associations, it included studies that showed no association or even a beneficial association with ultra-processed food, and it distinguished between cardiovascular and cerebrovascular events.

The major drawbacks of the meta-analysis were lack of control over the original studies' methodologies, how researchers measured endpoints, sample size and composition, and their use of "lowest consumption" instead of zero consumption as the reference group.

The choice of statistics by the authors of the original studies was also not controllable. This may seem like a minor point but given there is more than one way to analyze data, scientists usually select the method that gives them the answer they were looking for.

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Processing itself may contribute to low nutritional content

The Tangdu researchers found a linear relationship between ultra-processed food consumption and cardiovascular health — meaning that the effect increases at the same rate as the cause: double the cause, double the effect — but not with cerebrovascular health.

How can this be, given that both involve blood vessels?

"The vascular system, especially the endothelium, is of great heterogeneity among organs, which might account for the observed difference," Dr. Lijun Yuan, chief physician for Ultrasound Diagnostics at Tangdu Hospital and one of the study's co-authors, told The Defender.

Endothelial cells form a single layer inside blood vessels and are responsible for exchanging nutrients and waste between the blood and surrounding tissues.

"Heterogeneity" means epithelial cells take on different functions depending on the organ in which the blood vessel is found. Junk food might affect some populations of endothelial cells (here, those connected to the heart) but not others (those associated with the brain).

"It might be also due to the sample size differences of the available studies," she added.

Here, Yuan is referring to the difficulty of comparing an effect in large versus small subject groups. Larger groups tend to make clinically insignificant effects seem more relevant than they are.

A linear relationship means cause and effect are predictable — it does not mean that the consumption-risk relationship is the same everywhere.

For example, U.S. consumers fared better than the rest of the world when daily servings were the measure of exposure, and worse when either number of calories or servings was used.

This may be because the body views the "empty calories" of ultra-processed foods as filler, not nutrition. As the Tangdu researchers noted, "The most prominent features of UPF [ultra-processed foods] are poor dietary quality, as well as lower food nutrient density and higher food energy density."

Processing itself also may contribute to ultra-processed foods' low nutritional content. Many such foods undergo high-temperature cooking to prevent spoilage and are over-packaged for longer shelf life.

Chemicals released from ultra-processed foods' "excessive food packaging" are known to release trace chemicals which may also contribute to cardiovascular event risk, according to the review authors.

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What are ultra-processed foods?

Ultra-processed food is a fancy term for junk food high in sugar, fats, salt and artificial ingredients and low in nutrition. Eating such food is bad for health regardless of age, but it's especially harmful to children.

Ultra-processed food consumption provides calories and chemicals without nutrition, thereby causing weight gain and illness instead of the nutrients required for normal development and health.

And since they are addictive, ultra-processed foods often dictate a person's food tastes for life, meaning these consumption habits become self-perpetuating.

Despite studies associating junk food to obesity, diabetes, heart disease and cancer, it comprised 18.1% of children's caloric intake and about 13% of adults' according to a paper on U.S. junk food consumption.

The problem will only get worse through the promotion of artificial meat, which is famously nutrition-poor and chemical-rich.

Ultra-processed foods have become a global health problem, especially in developing countries. It took the fast food chicken outlet KFC (Kentucky Fried Chicken) 61 years to amass 4,618 U.S. outlets but less than 30 years to open nearly as many in China.

China's embrace of fast food has had consequences, as one-third of Chinese adults overall and half of those in cities are overweight.

"Ultra-processed foods are very common in China these days," Yuan told The Defender, "and youth are its main consumers."

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Angelo DePalma, Ph.D.

Angelo DePalma, Ph.D., is a science reporter/editor for The Defender.

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holisticpoet

a month ago

Truth is all processed foods contribute to disease. They do so by all the chemical food additives, preservatives, and denaturing of foods of which all of these are toxic to the human body. If we wish to achieve health we need to refrain from eating processed foods and chemicals and eat whole foods that contain far less toxins. Dr. John Tilden who practiced medicine in the 1800's stopped using most medicines and instead worked on eliminating toxins from the body. When the toxins are gone from the body, the body returns naturally to good health.

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Gary Brown
a month ago

DECEMBER 4, 2015 Wellness Chat: The Importance Of Nutrition In Cancer Prevention

EWG: Are there specific foods or food properties that you would suggest anyone concerned about cancer seek out or avoid when they're at the grocery store?

JW: My number one recommendation is to focus on the perimeter of the grocery store, as this is where the produce and less processed foods are located.

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